

22044

S/181/61/003/004/010/030  
B102/B214

24.7600(1137, 1158, 1160)

AUTHORS: Sytenko, T. N. and Koshel', O. N.

TITLE: Effect of the surface condition on the Hall effect and  
the magnetic resistance of germanium

PERIODICAL: Fizika tverdogo tela, v. 3, no. 4, 1961, 1079-1084

TEXT: It has been shown by the authors in earlier papers that the Hall effect and the magnetic resistance depend essentially on the condition of the surface of a semiconductor. The mechanism of the scattering of excess carriers is important for the interpretation of a number of surface-sensitivity effects. Therefore, the authors carried out further investigations of these effects for different treatments of the surface and are reporting on the results in the present paper. The samples were cut from a p-type Ge single crystal; they had a resistivity  $\rho = 42 \text{ ohm.cm}$  and a volume lifetime  $\tau = 300 \text{ } \mu\text{sec}$ . After etching with CP-4 (SR-4) they had a size of  $0.4 \times 1.0 \times 0.017 \text{ cm}$  (12-I) and  $0.4 \times 1.2 \times 0.0165 \text{ cm}$  (11-I). The measurements were made at a constant temperature,  $(+ 20.5 \pm 0.5)^\circ\text{C}$ , in the field of 3000 oe, and at a pressure of  $10^{-6} \text{ mm Hg}$  15 sec after the

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X

Effect of the surface ...

field had been applied. The conductivity of the samples was measured along with the Hall potential difference. The maximum of the Hall constant nearly coincided with the minimum of conductivity. The results obtained proved to be well reproducible. By a short action of an electric field only the filling of the surface states was altered. To influence the energetic structure of the surface, samples 11-I and 12-I were etched once more in boiling  $H_2O_2$ , but no essential changes occurred. Under the action of the electric field, an electric charge is induced in the semiconductor, which is captured in part by surface levels. The dependence of the conductivity of the space-charge layer on the band curvature of the surface for different volume-carrier concentrations, found theoretically by Schrieffer (Phys. Rev. 27, 641, 1955) and Garrett and Brattain (Phys. Rev. 29, 376, 1955), agrees well with the experimental results. The observed increase in the change of conductivity relative to the minimum, occurring under the action of the electric field after etching in  $H_2O_2$ , leads to the conclusion that the chemical treatment affects the concentration of surface levels and their position. This is also indicated by the fact that the form of the dependence of the Hall constant on the

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Effect of the surface ...

electric field is altered after etching in  $H_2O_2$ . The results relating to the measurement of the Hall constant  $R_X$  and  $(\Delta \rho / \rho)_\perp$  are compared with theoretical results of Petritz and Zemel, and those obtained for  $(\Delta \rho / \rho)_\parallel$  with results of G. Ye. Pikus (ZhTF, XXVI, 22, 1956). Results of the comparison are shown in Figs. 2 and 3. It is seen that a consideration of the light holes slightly improves the agreement between theory (Petritz, Zemel) and experiment. The authors carried out the calculations for light holes of the following parameters:  $r = 2.25 \cdot 10^{-2}$ ,  $b = 7.5$  ( $r$  is the concentration and  $b$  the mobility ratio of light and heavy holes). The theory of Petritz and Zemel is discussed in detail. The comparison of the results with the theory of Pikus showed that the effect of surface recombination on  $\Delta \rho / \rho H^2$  was insignificant under the present experimental conditions. It was found further that the different character of the dependence of  $\Delta \rho / \rho$  on the external electric field for two different orientations of the sample in the magnetic field at  $(\frac{\Delta \rho}{\rho})_\perp > (\frac{\Delta \rho}{\rho})_\parallel$  continued to exist even in the absence of any band curvature. The authors

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Effect of the surface ...

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X

thank Professor V. I. Lyashenko, Doctor of Physical and Mathematical Sciences, for suggesting the topic and guiding the work; and O. V. Snitko, Candidate of Physical and Mathematical Sciences, for advice and a discussion. There are 3 figures and 14 references: 7 Soviet-bloc and 7 non-Soviet-bloc.

ASSOCIATION: Institut fiziki AN USSR Kiyev (Institute of Physics,  
AS UkrSSR, Kiyev)

SUBMITTED: July 28, 1960 (initially) and November 30, 1960 (after  
revision)

Card 4/6

ROMANOV, V.A. [Romanov, V.O.]; ZHAD'KO, I.P.; KOSHEL', O.N.  
[Koshel', O.M.]

Some characteristics of the photoconductivity of PbS films.  
Ukr. fiz. zhur. 8 no.10:1092-1102 0 '63. (MIRA 17:1)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

KOSHEL', V. [translator]

Pride of a young master worker. Prom. keep. 14 no.1:33 Ja  
'60. (MIRA 13:5)  
(Piryatin--Physically handicapped--Rehabilitation)

KOSHEL', V. S.

PA 19T40

USSR/Radio - Relay Station||  
Radio - Training

Jan 1946

"Preparation of Young Technicians for Terminal and Booster Stations," V. S. Koshel', Chief Engineer, Kiev City Telephone Station,  $\frac{1}{2}$  p

"Vestnik Svyazi - Elektro Svyaz'" No 1 (70)

Discusses the plan for the training of young technicians set up at Kiev under the auspices of the People's Commissariat for Communications (SNK), USSR. It is a 6-month course; the first class graduated 40 students. Divides the subjects studied according to the number of hours spent on each. Following classes will take from 8-10 months to complete the course.

19T40

KOSHEL'-PLESKUNOVA, O.I., dots.

State of the higher nervous activity in children with tuberculous meningitis. Report No.2:16-20 '57. (MIRA 13:1)

1. Kafedra propedevtiki detskikh bolezney (zav. - dots. O.I. Koshel'-Pleskunova) Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta im. akad. A.A. Bogomol'tsa (dir. - dots. I.P. Alekseyenko).  
(MENINGES--TUBERCULOSIS) (CONDITIONED RESPONSE)



KOSHEL' PLESKUNOVA, O.S., doktor med., nauk, prof.

Protection for the health of mothers and children in new Vietnam.  
Ped., akush. i gin. 22 no.3:32-34 '60. (MIRA 14:4)  
(VIETNAM, NORTH—CHILDREN—CARE AND HYGIENE)  
(VIETNAM, NORTH—PUBLIC HEALTH)

Name: KOSHEL'-PLESKUNOVA, Yelena Isidorovna  
Dissertation: Data on the subject of the treatment  
of tubercular meningitis in children  
Degree: Doc Med Sci  
Affiliation: [Not indicated]  
Defense Date, Place: 10 May 56, Council of Kiev Order of  
Labor Red Banner Med Inst imeni  
Bogomolets  
Certification Date: 15 Jun 57  
Source: BMVO 16/57

EXCERPTA MEDICA Sec 7 Vol.12/6 Pediatrics June 58

1692. THE REMOTE SEQUELAE OF TREATMENT OF TUBERCULOUS MENIN-

PROVED FOR RELEASE 06/14/2000 - CIA-RDP86-00513R000825110006-8"

TRUD. II. SEZDA VRAC. - PEDIAT. USSR 1958 (206-212)

Of 250 children who remained alive after they had a timely, planned and lengthy treatment, 85% showed no residual symptoms of any kind. Recurrences were noted in 8%; 50% of these cases recovered. Complications (motor, speech, visual and auditory disturbances) yield rapidly to a comprehensive treatment and seldom leave any sequelae. Psychological disturbances are much more rare than formerly. Children who had had meningitis did not, in the majority of cases, show any deviations from normal, neither in physical nor in mental development. The period of observation was 2-6 yr. Such children adjust well to an active life; they do need, however, a lessening of the educational load for some years and they should be regularly examined by a pediatrician.

(S)

KOSHELENKO, A.M., inzhener

Improving the 350 rolling mill. Stal' 15 no.9:844-845 S'55.  
(MIRA 8:12)

1. Stalinskiy metallurgicheskiy zavod  
(Stalino--Rolling mill)

YEKTOV, I.M.; ZARUYEV, V.M.; GUROV, S.A.; REVENKO, I.F.; V rabote  
prinimali uchastiye : KALMANOVICH, Yu.R.; GRIGOR'YEV, F.N.;  
KOSHCHENKO, A.M.; LITVINENKO, Yu.P.; DMITRIYEV, V.D.;  
POLYAKOV, V.V.; PETUSHKOV, Ye.S.; FIRSOV, P.V.

Rolling double bulb-bar shapes with longitudinal cutting in  
the finishing mill. Stal' 20 no. 12:1113-1115 D '60.  
(MIRA 13:12)

1. Stalinskiy metallurgicheskiy zavod i Donetskii politekhnicheskiy institut.  
(Rolling (Metalwork))

KOSHELENKO, A.Ye., assistant

Breeding flax varieties for planting on stubble. Nauch. trudy  
UASHN 10:89-95 '60. (MIRA 14:3)  
(Flax breeding)

KOSHELENKO, A. Ye.

Cand Agr Sci - (diss) "Study of the biology of growth and selection of fiber-flax (*L. usitatissimum* var. *elongata*) for afterharvest sowing." Kiev, 1961. 20 pp; (Ministry of Agriculture Ukrainian SSR, Ukrainian Academy of Agricultural Sciences); 180 copies; free; (KL, 6-61 sup, 232)

KOSHELENKO, I., kand. geofraf. nauk

Satellite, rocket, and atmosphere. Nauka i zhyttia 13 no.10:25  
N '63. (MIRA 16:12)

KOSHELENK, I.V.

Meteorological conditions causing advection fogs over the central  
portion of European Russia. Trudy Ukr.NIGMI no.4:29-35 '55.

(MIRA 10:1)

(Fog)



KOSHELENKO, I.V.

Forecasting radiation fog. Meteor. i gidrol. no.3:28-32 Mr '56.  
(Fog) (MLRA 9:7)

KOSHCHENKO, I.V.

The role of heat advection in the formation of advective fog. Trudy  
Ukr. NIGMI no.5:159-169 '56. (MIRA 10:9)  
(Fog)

KOSHELENKO, I.V.

Synoptic conditions for the formation of advective fogs. Trudy Ukr.  
NIOMI no.5:170-177 '56. (MLRA 10:9)

(Fog)

KOSHELENKO, I.V.

AUTHOR: Ponomarenko, I. N. 50-58-3-21/22

TITLE: Scientific Seminar for Operational Sections of the  
Hydrometeorological Service (Nauchnyy seminar v operativnykh  
podrazdeleniyakh gidrometeorologicheskoy sluzhby)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 3, pp. 69-70 (USSR)

ABSTRACT: The arrangement of scientific seminars in the technical sub-  
divisions of the hydrometeorological service - weather bureaus,  
hydrometeorological bureaus etc., is of special importance  
for the direct contact between the collaborators of research  
stations and experts which occupy themselves with the practi-  
cal work of the hydrometeorological care of national economy.  
From October 22 to 24, 1957 such a seminar was held in the  
hydrometeorological bureau in L'vov in the presence of  
representatives of the L'vov State University and the  
meteorological service of the L'vov Railroad Office. Six  
lectures were held. I. N. Ponomarenko, in his lecture  
characterized the scientific research works which have been  
performed in the division for the synoptical investigations  
and forecasts within the entire period of the existence of

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50-58-3-21/22

Scientific Seminar for Operational Sections of the  
Hydrometeorological Service

the Ukrainian Scientific Research Institute for Hydro-meteorology, I. V. Koshelenko, N. M. Gavrilenko and N. M. Volevakha in their lectures dealt with perfected forecasts on fog and low clouds, on deterioration of the sight in snow-storms and snow-falls, and on precipitations of various phase states (in the cold half-year). A. I. Romov in his lecture treated peculiarities of the influence of the Carpathians upon the modification of the atmospheric pressure on both sides of the mountain range and the gradual development of orographic precipitations by the displacement of the south cyclones. N. I. Astakhova reported on scientific research works for the **perfecting** of long term weather forecasts which were performed in the Central Institute for Weather in the Geophysical Main Observatory in the Arctic Institute and in the **Kazakh** Scientific Research Institute for Hydrometeorology. The participants in the seminar were unanimous on the expediency and the usefulness of such seminars.

1. Meteorology--USSR 2. Weather forecasting--USSR

Card 2/2

SOV/169-60-3-2832

Translation from: Referativnyy zhurnal, Geofizika, 1950, Nr 3, p 119 (USSR)

AUTHOR: Koshelenko, I.V.

TITLE: On the Radiation Factor in Forecast of Fogs

PERIODICAL: Tr. Ukr. n.-i. gidrometeorol. in-ta, 1959, Nr 11, pp 3 - 20

ABSTRACT: The radiation factor plays a considerable part in the origination and dispersion of fogs of any nature. The author undertakes an attempt to take approximately into account the quantitative effect of the radiation factor on the variation of temperature and its vertical gradient in the boundary layer of the atmosphere. Approximate formulae are presented for determining the variations of the vertical temperature gradient in the layers from the earth surface to the upper boundary of cloudiness; moreover, for night hours the variation of the mean temperature of the layer is determined. The effective radiation is computed by means of the Elsasser radiation nomogram. The author shows by an example that the rated decrease of air temperature during the night is near the actual decrease both for clear and cloudy weather. Certain

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On the Radiation Factor in Forecast of Fogs

SOV/169-60-3-2832

synoptic conditions for conservation and dispersion of fog originated in evening are discussed. The scheme of origination of fog and low clouds under the effect of radiation cooling is presented. Two examples for calculating this cooling are given. Conditions are pointed out which favor or prevent the sinking of the cloud base in night. It is shown that the radiation fogs in Kiyev originate in 93% of all cases of fog frequency, when the preceding day was cloudy; the frequency of fogs in clear day weather amounts to 7%.

Ye.M. Kozik

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3.5000

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SOV/169-60-3-2831

Translation from: Referativnyy zhurnal, Geofizika, 1960, Nr 3, p 119 (USSR)

AUTHOR: Koshelanko, I.V.

TITLE: Forecasting Advective Fogs <sup>2</sup> With Due Regard for Fundamental Physical Factors

PERIODICAL: Tr. Ukr. n.-i. gidrometeorol. in-ta, 1959, Nr 11, pp 21 - 41

ABSTRACT: An amendment to the method of forecast of advective fog is proposed; the low cloudiness is considered only at an altitude of 100 - 200 m, when it is connected immediately with a fog. A formula for the variation of the turbulence coefficient with the altitude is presented. On this basis, an expression for determining the altitude of the lower inversion limit is obtained. The author shows that small exchange coefficients in the layer under the clouds favor the lowering of the cloud base. The effect of the adiabatic factors on the origination of advective fog under the conditions of rugged terrain is analyzed. The author proposes an approximate formula for determining the vertical temperature gradient with due regard for advection,

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SOV/169-60-3-2831

Forecasting Advective Fogs With Due Regard for Fundamental Physical Factors

turbulence, and radiation, and cites an example of computations by this formula; it is necessary for the origination of advective fog that the vertical temperature gradient should be smaller than the adiabatic humidity gradient. It is impossible to judge from the magnitude of heat advection on the origination of advective fog, because the advection is caused by two independent factors: the wind velocity and the horizontal temperature gradient along the current. Fog originates, as a rule, when the wind is weak and the horizontal temperature gradient is considerable. The criteria for conservation of the fog zone on the spot or its displacement are given. A formula for accounting the effect of the radiation factor on the vertical temperature gradient is quoted. The author subdivides the advective fogs into two groups: 1) fogs immediately connected with heat- and moisture advection; 2) fogs caused by lowering of clouds. The former can be observed when the wind velocity amounts to 10 - 15 m/sec, and the latter at 3 - 4 m/sec. The author presents an empirical graph for forecasting advective fogs, the graph takes into account the advection, radiation, turbulence, degree of saturation in air, and the properties of the base surface. The warrantability of the forecasts made 8 - 10 hours in advance amounts to 80 - 85%. Bibl. 15 titles.

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Ye.M. Kozik

KOSHELENKO, I.V.

Some recommendations in the prognosis of radiation fogs.  
Trudy Ukr.NIGMI no.11:42-51 '59. (MIRA 13:3)  
(Fog)

KOSHELENKO, I.V.

A new approach to the study of aridity and some other phenomena.  
Trudy UkrNIGMI no.17:16-30 '59. (MIRA 13:12)  
(Droughts)

KOSHCHENKO, I.V.

Effect of local conditions on the formation of fogs. Trudy UkrNIGMI  
no.21:3-15 '60. (MIRA 13:10)

(Ukraine--Fog)

KCSHELENKO, I.V.

Scheme of the formation of low clouds and fogs due to the effect of  
radiational cooling. Trudy UkrNIGMI no.21:16-22 '60. (MIRA 13:10)  
(Cloud physics)

BOGATYR', L.F.; KOSHELENKO, I.V.

Aerosynoptic conditions causing advection fog and low clouds  
in the Ukraine. Trudy UkrNIGMI no.27:15-25 '61.

(MIRA 16:7)

(Ukraine--Fog)

S/599/61/000/027/001/001  
D207/D308

AUTHOR: Koshelenko, I.V.  
TITLE: Measuring the humidity of air in a fog and the role  
of condensation nuclei  
SOURCE: Kiyev, Ukrainskiy nauchno-issledovatel'skiy gidromete-  
orologicheskii institut. Trudy. no. 27. Kiev, 1961.  
Voprosy sinopticheskoy meteorologii, 56 - 68

TEXT: The main purpose of the paper is to show that fogs do not normally form unless the relative humidity (R.H.) is 100 % or even slightly more. Values of the R.H. less than 100 % reported for fogs are due to: 1) Unjustified rejection of psychrometer observations above 0°C whenever the wet-bulb thermometer shows a higher temperature than the dry bulb; 2) Incorrect calculation of the R.H. with respect to water when ice is present in a fog below 0°C, (R.H. should be found with respect to ice under these conditions); 3) Incorrect assumption (in humidity tables) of 0.8 m/sec air velocity inside a psychrometer housing while this velocity is frequently less or may be even zero in the housing; 4) The effect of fog droplets, deposi-  
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Measuring the humidity of air in a ...

S/599/61/000/027/001/001  
D207/D308

ted on the dry bulb of a psychrometer, on the temperature readings. The author also examines the currently accepted idea that condensation nuclei of industrial origin, present in heavy concentrations in cities, can cause fogs below 100 % R.H. Laboratory experiments in a closed 5-liter vessel half-filled with water and with plenty of smoke above the water surface showed no fog or condensation unless the R.H. was 100 % or more. Similarly an analysis of the observations carried out in many Soviet-cities and in the open country indicated that fogs were not formed more frequently in cities despite the very large number of condensation nuclei, unless the R.H. was 100 %. The author shows that large amounts of water produced by the chemical reactions of burning various fuels in cities may increase materially the relative humidity only under calm conditions below -15°C. There are 3 figures and 7 tables. ✓

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KOSHELENKO, I.V.

Vertical distribution of meteorological elements in fog and  
some physical regularities. Trudy UkrNIGMI no.27:69-78 '61.  
(MIRA 16:7)

(Fog)

KOSHELENKO, I.V.

Sounding in the surface boundary layer. Trudy UkrNIGMI no.27:  
79-85 '61. (MIRA 16:7)

(Atmosphere) (Balloons, Sounding)

KOSHELENKO, I.V.

Conditions governing the appearance of sea fog on the coast;  
reply to O.K.II'inski. Trudy UkrNIGMI no.32:29-35 '62.

(MIRA 16:11)

ACCESSION NR: AT4018987

S/2599/63/000/036/0056/0062

AUTHOR: Koshelenko, I. V.

TITLE: Fog dispersal under the influence of radiation heating

SOURCE: Kiev. Ukr. n.-i. gidrometeor. institut. Trudy\*, no. 36, 1963. Voprosy\* fiziki atmosfery\* (Problems in atmospheric physics), 56-62

TOPIC TAGS: meteorology, fog, air temperature, scattered radiation, effective radiation, fog dispersal

ABSTRACT: A relationship has been derived making it possible to determine fog thickness from a surface observations of scattered radiation and effective radiation. Thickness is used to determine fog dispersal time. Vertical distribution of illumination in a fog has been determined. The study was made on the ground and in the air in 1959-1961 by the Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskii institut (Ukrainian Hydrometeorological Scientific Research Institute). Fig. 1 of the Enclosure shows the dependence between scattered radiation  $D$  and solar altitude  $h_0$  for different cloud thicknesses; considerable changes  $D$  are observed in a fog of small thickness, but in fogs over 200 m thick variations  $D$  usually are insignificant. Fig. 2 of the Enclosure shows change  $D$

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ACCESSION NR: AT4018987

at the surface as a function of fog thickness on the basis of computed and empirical data; with an increase of fog thickness D first increases and then decreases. Dispersal of fog under the influence of radiation is dependent largely on fog thickness and intensity of heating. Fig. 3 of the Enclosure shows the relationship between fog thickness and the time required for its dispersal under the influence of radiation when a snow cover is present and absent. Hours from sunrise are plotted along the x-axis. A thin fog (less than 100 m) is dispersed 2 or 3 hours after sunrise; in the case of a fog 200 m thick the dispersal requires 4 to 5 hours when there is no snow cover or 6 to 7 hours when there is a snow cover. Orig. art. has: 6 formulas, 3 figures and 1 table.

ASSOCIATION: Ukrainakiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut, Kiev. (Ukrainian Scientific Research Institute for Hydrometeorology)

SUBMITTED: 00

DATE ACQ: 27Mar64

ENCL: 03

SUB CODE: AS

NO REF SOV: 006

OTHER: 000

Card: 2/42

KOSHEL', I.V.

Changes in the peripheral blood indices in children with acute leukemia during steroid hormone therapy. *Pediatrics* 42 no.8: 69-74 Ag'63 (MIRA 17:4)

1. Iz kliniki starshego detskogo vozrasta Instituta pediatrii (dir. - dotsent M.Ya. Studenikin) AMN SSSR ( nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR O.D. Sokolova-Ponomareva).

KOSHELENKO, I.V.

Fog dispersal under the influence of radiant heating. Trudy  
UkrNIGMI no.36:56-62 '63 (MIRA 17r7)

L 20967-65 EWT(1)/FCG ASD(1)-3/AFETR/SD(1) GW  
ACCESSION NR: AT5000702 8/2599/64/000/043/0022/0027

AUTHOR: Koshelenko, I. V.

TITLE: Results of an aircraft investigation of fog

SOURCE: Kiyev. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy\*, no. 43, 1964. Voprosy\* sinopticheskoy i dinamicheskoy meteorologii (Problems in synoptic and dynamic meteorology), 22-27

TOPIC TAGS: fog, air humidity, air temperature, atmospheric turbulence, weather forecasting, fog modification, atmospheric boundary layer, temperature inversion

ABSTRACT: Beginning in 1960, the Otdel fiziki atmosfery\* (Division of Atmospheric Physics) of the Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (Ukrainian Hydrometeorological Scientific Research Institute) organized systematic fog investigations over the Ukraine using a specially equipped IL-14 aircraft. The instruments carried by the aircraft and the methods used in the investigation are described, but emphasis is on the results. For the first time it was possible to obtain systematic data on the vertical thickness of different types of fogs over a large area. It was established that low clouds are usually absent over a fog layer, except in frontal zones, and that in 90% of

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ACCESSION NR: AT5000702

all cases there is dry air directly above the upper fog boundary; the relative humidity in this dry air is usually less than 50%. The presence of dry air over a fog has made it possible to postulate that a fog could be dissipated by artificially mixing the upper dry air with the fog. It was confirmed that all fogs over the land are formed when there is stable stratification in the boundary layer of the atmosphere. In most cases there is a temperature inversion above the fog and the inversion serves as a blocking layer. The relative and specific humidity change little with height in the fog layer. Above a fog there is a sharp decrease in relative humidity. The specific humidity above a fog can either decrease or increase, depending on the origin of the temperature inversion. If the temperature inversion above a fog formed under the influence of radiation cooling or as a result of heat advection, the specific humidity above the fog usually increases. If the formation of the inversion can be attributed in large part to anticyclonic subsiding air movements there will be a considerable decrease of specific humidity with height. For the first time it was possible to obtain a detailed vertical distribution of liquid-water content in different forms of fogs as a function of the stage of development of the fog, its intensity and wind velocity. These results can be used in developing methods for artificial fog modification. In an advection fog the liquid-water content increases appreciably with height: at the surface it is

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L 20969-65 EWT(1)/FCC GW  
ACCESSION NR: AT5000704

S/2599/64/000/043/0065/0079

AUTHOR: Koshelenko, I. V.

TITLE: Some refinements to the forecasting of an evaporation fog<sup>12</sup>

B+1

SOURCE: Kiyev. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy\*, no. 43, 1964. Voprosy\* sinopticheskoy i dinamicheskoy meteorologii (Problems in synoptic and dynamic meteorology), 65-79

TOPIC TAGS: weather forecasting, fog forecasting, advective fog, evaporation fog, frontal fog

ABSTRACT: Under favorable synoptic conditions, the forecasting of an evaporation fog can be made more precise on the basis of the M. P. Timofeyev theory (M. P. Timofeyev, Izv. AN SSSR, ser. geofiz., No. 6, 1955). At the time of the flow of cold air onto a warm water surface an evaporation fog can develop if the following relation is satisfied:

$$r_1(1-p) = e^{\frac{e(r_n - r_1)p}{e + r_1}} - pe^{\frac{e(r_1 - r_n)}{e + r_1}} + \frac{e}{s_0} e^{\frac{-er_1}{e + r_1}}, \quad (1)$$

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where  $r_1$  and  $T_1$  are initial relative humidity and the temperature of the onflowing air,  $a$  and  $b$  are constants from the Magnus formula,  $w$  is the liquid-water content of the fog,  $S_0$  is saturating humidity at a temperature of  $0^\circ$ ,  $T_w$  is the temperature of the water surface and  $p$  is a known function. The method for determining  $p$  is described in the article. For a liquid-water content of  $0.1 \text{ g/m}^3$  and on the basis of formula (1) the author has constructed curves (Fig. 1 of the Enclosure) for forecasting an evaporation fog. The method for using this forecasting tool is described. The author has also constructed an empirical curve (Fig. 2 of the Enclosure) for forecasting a frontal evaporation fog. The change of visibility in a fog under the influence of rain is plotted along the x-axis. The difference between rain-drop temperature and air temperature is plotted along the y-axis.  $T_{\text{drop}}$  is the temperature of the air layer at a height of 500-1,000 m. The figure shows that when  $T_{\text{drop}} > T_{\text{air}}$  rain leads to a worsening of visibility and fog intensification. Relative humidity on a logarithmic scale is also plotted along the x-axis in Fig. 2 of the Enclosure. By using this scale and the curve it is possible to refine the accuracy of the fog forecast. If, on the basis of initial relative humidity and the difference  $T_{\text{drop}} - T_{\text{air}}$ , a point on the graph falls above the curve, the falling precipitation will increase humidity and worsen visibility; when there is a positive difference  $T_{\text{drop}} - T_{\text{air}}$  a fog should be expected. Orig. art. has: 4 formulas and 4 figures.

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L 20969-65

ACCESSION NR: AT5000704

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut,  
Kiev (Ukrainian Hydrometeorological Scientific Research Institute)

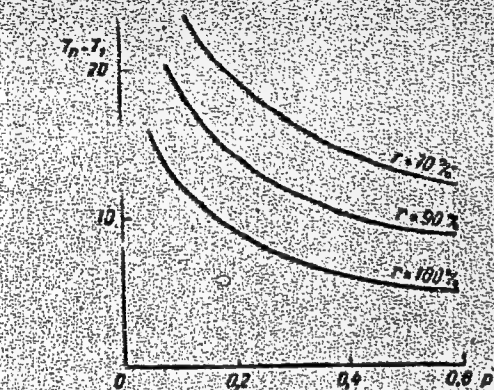
SUBMITTED: 60

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NO REF SOV: 014

OTHER: 000



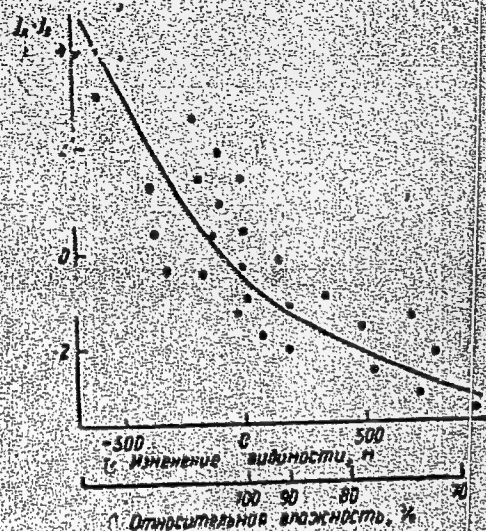
Card 3/4

Fig. . . . Curves for forecasting an evaporation  
from the initial difference between sea  
and air temperature, initial relative air  
humidity and value of the function  $p$ .



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ACCESSION NR: AT5000704



Card 4/4

Fig. 2. Empirical nomogram for forecasting frontal evaporation fog. A)  $I_{\text{drop}}/I_{\text{air}}$ ; B) Change of humidity; C) Relative humidity.

I 61735-85 EWT(1)/EWG(v) Pe-5/Pae-2 G

ACCESSION NR.: AT5017682

UR/2599/65/000/047/0022/0029

AUTHOR: Koshelonko, I. V.

17  
16  
B+1

TITLE: Some radiation characteristics in fog

SOURCE: Kiyev. Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy, no. 47, 1965. Voprosy aktivnykh vozdeystviy na atmosfernyye protsessy (Problems of active influences on atmospheric processes), 22-29

TOPIC TAGS: fog, radiation balance, cloud

ABSTRACT: This paper contains data on radiation balance and total radiation in fog on the earth's surface, at the upper boundary, and within the fog layer. At nighttime, when solar radiation is absent, the radiation balance of the surface below a fog is most frequently negative, but the absolute value is small (about 0.02-0.05 cal/cm<sup>2</sup> min). About 25% of the time the balance during foggy weather is zero, and only where there is a strong temperature inversion in the fog and when the fog layer is more than 200-300 m thick does the balance become positive. In daytime, when there is no snow cover, the radiation balance passes through zero when the sun rises to heights of 5-8° (about 1-1½ hours after sunrise) and at noon it reaches a positive value on the order of 0.05-0.12 cal/cm<sup>2</sup> min.

Card 1/2

KOSHELENKO, I.V.

Results of a fog study with the help of an airplane. Trudy  
UkrNIGMI no.43:65-79 '64. (MIRA 18:4)

CHISTYAKOV, A.D.; BURKOVA, M.V.; ORLOVA, Ye.M.; GLAZOVA, O.P.;  
PED', D.A.; BERLYAND, M.Ye.; AHRAMOVICH, K.G.; POPOVA,  
T.P.; MATVEYEV, L.T.; BACHURINA, A.A.; LEBEDEVA, N.V.;  
PESKOV, B.Ye.; ROMANOV, N.N.; VOLEVAKHA, N.M.; PCHELKO,  
I.G.; PETRENKO, N.V.; KOSHELENKO, I.V.; PINUS, N.Z.;  
SHMETER, S.M.; BATSHEVA, T.F.; MININA, L.S.; BEL'SKAYA,  
N.N., nauchn. red.; ZVEREVA, N.I., nauchn. red.;  
KURGANSKAYA, V.M., nauchn. red.; MERTSALOVA, A.N., nauchn.  
red.; TOMASHEVICH, L.V., nauchn. red.; SAGATOVSKIY, N.V.,  
otv. red.; KOTIKOVSKAYA, A.B., red.

[Manual of short-range weather forecasting] Rukovodstvo  
po kratkrochnym prognozam pogody. Leningrad, Gidro-  
meteoizdat. Pt.2. Izd.2. 1965. 491 p.

(MIRA 18:8)

1. Moscow. Tsentral'nyy institut prognozov.



KOSHELENKO, I.V.

Some radiation characteristics in fog. Trudy UkrNIGMI no.47:22-29  
'65. (MIRA 18:7)

1. BELYY, N. L. ; VAKHNINA, O. A. ; KOSHELENKO, L. P.
2. USSR (600)
4. Dneprodzerzhinsk - Pharmacy
7. Dneprodzerzhinsk Branch of the Dnepropetrovsk Province Section.  
Apt. delo. No. 5. 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified

POLYAKOV, N.S.; LIPITSKIY, G.T., inzh.; KOSHELENKO, P.I., inzh.

New type of flexible rollers for large-capacity belt conveyors.  
Vop. rud. transp. no.5:42-46 '61. (MIRA 16:7)

1. Dnepropetrovskiy gornyy institut (for Polyakov, Lipitskiy).
2. Semenovsko-Golovkovskiy ugol'nyy razrez (for Koshelenko).
3. Chlen-korrespondent AN UkrSSR (for Polyakov).  
(Conveying machinery)

GRECHUSHNIKOV, S.Ya., inzhener; KOSHELENKO, V.I., inzhener; MAZUROV, D.Ya.,  
inzhener; ZAVODSKIY, Ya.M., inzhener

Obtaining rapid-hardening cement from the fine particles retained  
in bag filters. TSement 21 no.5:25-27 S-0 '55. (MLRA 9:1)  
(Cement industries)

KOSHELENKO, V. M.

Fruit Culture

Preparing seeds of stone fruit for sowing. Sad i og., No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

GUNBIN, N.Ya., gornyy inzh.; KOSHELENKO, V.M., gornyy inzh.

Growth of labor productivity at the Kirov Mine. Gor. zhur.  
no.5:12-14 My '64. (MIRA 17:6)

1. Rudnik im. Kirova, Rog.

Country : USSR  
Category: Cultivated Plants. Fruit. Berries.

M

Abs Jour: RZhBiol., No 11, 1958, No 49083

Author : Koshelanko, V.M.  
Inst : Voronezh Agric. Inst.  
Title : On the Problem of Vitality in the Seeds of Fruit  
Bearing Plants.

Orig Pub: Zap. Voronezhsk. s.-kh. in-ta, 1956, 26, No 2, 81-87

Abstract: Experiments carried out by the Chair of Horticulture of the Institute have shown that the storage of seeds of stone fruit trees in dry air is the main reason for a low germination. It is recommended to let the seeds undergo stratification immediately after gathering or to store them in a humid place. Free access of fresh air and humidity during strati-

Card : 1/2

M-147

Abs Jour: RZhBiol., No 11, 1958, No 49083

fication shortens the rest period and improves  
germination. The stratification of seeds in a humid place  
increases the vitality of the seeds. -- I.K. Fortunatov

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825110006-8"

Card : 2/2

KOSHELENKO, V.M.

Analysis of mining methods in use of the "XX Perts'ezd" Mine.  
Sbor. nauch. trud. KGRI no.23:53-62 '67 (MIRA 17:8)



VEN'YAMINOV, A.N., prof., doktor sel'skokhozyaystvennykh nauk; KOSHELENKO, V.M.,  
kand.sel'skokhozyaystvennykh nauk

Use of hybrids in producing seeds of apple rootstock. Agrobiologiya  
no.1:114-116 Ja-F '63. (MIRA 16:5)

1. Voronezhskiy sel'skokhozyaystvennyy institut.  
(Apple) (Seed production)

MASHKIN, P.A.; KOSHELENKO, V.M.

New and highly efficient mining systems in the Krivoy Rog Basin.  
Met. i gornorud. prom. no.1:78 Ja-F '64. (MIRA 18:3

KOSHELEV, A., master

Our proposals. Grashd.av 17 no.3:14 Mr '60.  
(MIRA 13:6)

1. Lineyno-ekspluatatsionnaya i remontnaya masterskaya,  
Sverdlovsk.  
(Aeronautics, Commercial--Equipment and supplies)

SHERESHEVSKIY, Ya., inzh.; KOSHELEV, A., inzh.

Methods of avoiding defects in cast iron engine pistons.  
Rech. transp. 21 no.12:29-30 D '62. (MIRA 15:12)  
(Iron founding--Defects)  
(Pistons--Defects)

KOSHELEV, A.A. (Irkutsk)

Modeling by means of hydraulic analogies variable modes of operation of heat supplying systems. Izv. AN SSSR. Energ. i transp. (MIRA 16:11)  
no.4:525-530 1-Ag '63.

KHODOSH, B.B.; KOSHELEV, A.A.

Broach for machining rectangular holes. Mashinostroitel'  
no.12:21 D '63. (MIRA 17:1)

KUZNETSOV, Yu.A.; MAKAROV, A.A.; MELENT'YEV, L.A.; MERENKOV, A.P.; NEKRASOV, A.S.; TSVETKOV, N.I.; KUZNETSOV, Yu.A.; MAKAROVA, A.S.; KARPOV, V.G.; MANSUROV, Yu.V.; SYROV, Yu.P.; KHRILEV, L.S.; TSVETKOVA, L.A.; VOYTSEKHOVSKAYA, G.V.; YEFIMOV, N.T.; LEVENTAL', G.B.; KHANAYEV, V.A.; BELYAYEV, L.S.; GAMM, A.Z.; KARTELEV, B.G.; KRUMM, L.A.; LIOPO, T.N.; SVIRKUNOV, N.N.; DRUZHININ, I.P.; KONOVALENKO, Z.P.; KHAN'YANOVA, N.V.; SHVARTSBERG, A.I.; NIKONOV, A.P.; STARIKOV, L.A.; POPIRIN, L.S.; PSHENICHNOV, N.N.; TROSHINA, G.M.; CHEL'TSOV, M.B.; SVETLOV, K.S.; SUMAROKOV, S.V.; TAKAYSHVILI, M.K.; TOIMACHEVA, N.I.; KHASILEV, V.Ya.; KOSHELEV, A.A.; KUDINOVA, L.I., red.

[Methods for using electronic computers in the optimization of power engineering calculations] Metody primeneniia elektronno-vychislitel'nykh mashin pri optimizatsii energeticheskikh raschetov. Moskva, Nauka, 1964. 318 p.  
(MIRA 17:11)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Energeticheskii institut. 2. Chlen-korrespondent AN SSSR (for Melent'yev).

GRACHEV, Yu.P., inzh.; KOSHELEV, A.A., inzh.

Economic effectiveness of electric heating in cities. Vod. i san.  
tekhn. no.7:24-29 J1 '65. (MIRA 18:8)



FEL'DMAN, I.Ye.; KOSHELEV, A.G.; KATEROVA, N.A.

Automatically controlled electrolytic unit for use in experimental  
laboratories.. TSvet. met. 36 no.5:80-81 My '63. (MIRA 16:10)

LIPATOVA, Valentina Alekseyevna; KOSHELEV, Aleksey Georgiyevich

[Collective-farm tractor brigade on a cost-accounting basis]  
Kolkhoznaya traktornaya brigada na khozraschete. Moskva,  
Sovetskaya Rossiya, 1958. 22 p. (MIRA 13:7)  
(Tractors)

KOSHELEV, A. I.

USSR/Mathematics - Potential Theory

May/Jun 53

"Differentiability of the Solutions of Certain Problems in Potential Theory,"

A. I. Koshelev, ~~Leningrad~~, Leningrad <sup>Branch</sup> Dept of Math Inst ~~in~~ Steklov, Acad Sci USSR

Matemat Sbornik. Vol 32(74), No 3, pp 653-664

Obtains results similar to those of S. G. Mikhlin ("Certain Evaluations Connected with Green's Function," DAN SSSR, Vol 78, No 3, 443-446, 1951) concerning the twice-differentiability and inequality of solution  $u$  of the Poisson equation

$u_{x_1x_1} + u_{x_2x_2} = f$  (boundary condition:  $u|_G = 0$ ); namely, for the case where the function  $f$  is summable in the region  $R$  of boundary  $G$  with a certain power  $p > 1$  (Mikhlin used  $p=2$ ). Shows that  $u$  satisfies the inequality

$$(\iint_R |u_{x_1x_k}|^p dx_1 dx_2)^{1/p} = C (\iint_R |f|^p dx_1 dx_2)^{1/p} \quad (1, k=1, 2).$$

25 T7

Koshelev, A. I.

USSR/Mathematics - Nonlinear Elliptic Equations 21 Aug 53

"Newton's Method and the Generalized Solutions to Nonlinear Elliptic-Type Equations," A. I. Koshelev, Leningrad Textile Inst im S. M. Kirov

DAN SSSR, Vol 91, No 6, pp 1263-1266

In 1919 S. A. Chaplygin (Novyy Metod Priblizhennogo Integrirvaniya Differentsial' nykh Uravneniy [New Method for Approximate Integration of Differential Eqs], 1950) utilized the fundamental idea of the linearization of Newton's method in the solution

275T78

of ordinary differential eqs. Later L. V. Kantorovich (Usp Mat Nauk 3, No 6, 1948; DAN 80, No 6, 1951) proposed a rapid-convergence method for solving functional eqs by a generalized analog of Newton's method. Establishes e. g. the sequence of approximate solutions  $u_n(x,y)$  of the nonlinear eq  $(1+u_x^2)u_{xx}-2u_xu_yu_{xy}+(1+u_y^2)u_{yy} = 0$  ( $u|_G = f(s)$ ), and its convergence. Acknowledges guidance of Prof L. V. Kantorovich. Presented by Acad V. I. Smirnov 11 Jun 53.

KOSHELEV, A. I.

USSR/ Engineering - Stress analysis

Card 1/1 Pub. 22 - 5/40

Authors : Koshelev, A. I.

Title : Existence of a general solution for the elastically-plastic twist.

Periodical : Dok. AN SSSR 99/3, 357-360, Nov 21, 1954.

Abstract : The existence of a general solution for the elastically-plastic twist problem is proved. The proof was accomplished by mathematical manipulations of a differential equation expressing an elastically-plastic twist which led to an elliptical-form equation the solution of which was sought in finding an  $\Omega$  region where the generalized elastically-plastic twist equation would satisfy the boundary conditions  $u/r = 0$ . The region was found by application of Sobolev's theorem on insertions, Berenshtein's theorem and Newton's convergence theorem. Six Russian references (1941-1953).

Institution : Leningrad Textile Institute im. S. M. Kirov

Presented by : Academician V. I. Smirnov, July 5, 1954

KOSHELEV, A I.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 133  
 AUTHOR KOSELEV A.I.  
 TITLE Differential corresponding spaces and existence theorems.  
 PERIODICAL Doklady Akad. Nauk 105, 22-25 (1955)  
 reviewed 7/1956

The author continues his investigations on the applicability of the Newton method of Kantorovič in the theory of the boundary value problems for quasi-linear elliptic equations. Let be:

$$Pu \stackrel{\text{def}}{=} \sum_{i,k=1}^n a_{ik}(x,u, \partial u / \partial x) \partial^2 u / \partial x_i \partial x_k + f(x,u, \partial u / \partial x)$$

$$a_{ik} = a_{ik}^0(x) + \lambda_0 a_{ik}^1(x, \partial u / \partial x); \quad f = f^0(x) + \lambda_0 f^1(x, \partial u / \partial x).$$

The following theorem 1 is valid: Assumptions: 1)  $a_{ik}, f$  are continuous;  $a_{ik}(x, \cdot, \cdot), f(x, \cdot, \cdot) \in [C^2]$ ; 2) The first derivatives of  $a_{ik}$  are bounded and measurable;  $f^0 \in LP(\Omega)$ ,  $p > n$ ; 3) The boundary  $\partial\Omega$  of  $\Omega \in C^2$ ; 4)  $\sum a_{ik} \xi_i \xi_k \geq c \sum \xi_i^2$  (ellipticity!). Statement: The boundary problem:  $Pu = 0$ ,  $u|_{\partial\Omega} = 0$

Koshelev, A. I.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress, Moscow, Jun-Jul '56,  
Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Koshelev, A. I. (Leningrad). Boundedness of Generalized  
Solutions of Elliptic Equations.

56

KOSHELEV A. I.

Koshelev, A. I. On boundedness in  $L_p$  of derivatives of solutions of elliptic differential equations. Mat. Sb. N.S. 38(80) (1956), 359-372 (Russian).  
 Let  $L$  be a real elliptic differential operator of the second order defined in a bounded region  $\Omega$  in  $n$ -space. Put  $|D^k|_p = \sum (f(D)/|D|^{n/2})^{1/2}$ , where the sum extends over all the derivatives  $D$  of order  $\leq k$ . Ladyženskaya [Dokl.

Akad. Nauk SSSR (N.S.) 79 (1951), 723-725; MR 14, 280] has shown that if  $u$  vanishes at the boundary  $\Gamma$  of  $\Omega$  then  $|D^k u|_2 \leq |L u|_2$  ( $c$  a constant), provided that  $\Gamma$  and the coefficients of  $L$  are smooth enough and that the equation  $Lu=0$ ,  $u=0$  on  $\Gamma$ , has no solution  $\neq 0$ . In this paper it is shown that  $|D^k u|_p \leq c |L u|_p + c \sup |u|_p$  ( $p \geq 1$ ), where  $T$  is a plane section of  $\Omega$  and  $|u|_p$  the corresponding  $p$ -norm obtained by integrating over  $T$ . If  $p > 2(1-n^{-1})$  and  $L$  is self-adjoint, the last term can be cancelled.

L. Gårding (Lund).

1  
 Math  
 1000  
 1000



~~KOSHELEV, A.I.~~ KOSHELEV, A.I.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 674  
 AUTHOR KOSELEV A.I.  
 TITLE On the boundedness of the solutions of elliptic equations and systems in the  $\mathcal{L}_p$ .  
 PERIODICAL Doklady Akad.Nauk 110, 323-325 (1956)  
 reviewed 4/1957

In the bounded connected domain  $\Omega$  of the  $n$ -dimensional space  $x(x_1, x_2, \dots, x_n)$  let be given the system

$$(1) \quad \mathcal{L}u = \sum_{k_1, \dots, k_{2m}=1}^n a^{(k_1, \dots, k_{2m})} \frac{\partial^{2m} u}{\partial x_1 \dots \partial x_{k_{2m}}} + T u = f(x),$$

where the  $a^{(k_1, \dots, k_{2m})}$  are quadratic matrices and  $T u$  is a linear differential operator which contains derivatives of  $u$  of the order  $< 2m$ .  
 Theorem: Let  $\Omega_d$  be an inner subdomain of  $\Omega$  such that the distance from  $\Omega_d$  to the boundary of  $\Omega$  is not smaller than  $d > 0$  and let  $\Omega' \subset \Omega_d$ . If the matrices  $a^{(k_1, \dots, k_{2m})}$  and the coefficients of the operator  $T u$  are continuous in  $\Omega$ , then from the existence of a generalized solution of (1) there follows the estimation

APPROVED FOR RELEASE: 06/14/2000  
 Doklady Akad.Nauk 110, 323-325 (1956)

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 CARD 2/2 PG - 674

$$\|u\|_{W_p^{(2m)}(\Omega')} \leq B_1 \|f\|_{\mathcal{L}_p(\Omega_d)} + \frac{B_2}{d^{\beta(m,n,p)}} \sup_{\Omega_{n-1}} \|u\|_{W_1^{(2m-1)}(\Omega_{n-1})} \quad (p > 1).$$

Here  $B_1$  and  $B_2$  are constants being independent of  $u$  and  $f$ .  $\beta$  is a positive number depending on  $m, n$  and  $p$  only;  $\Omega_{n-1}$  are the  $(n-1)$ -dimensional plane intersections through  $\Omega_d$ .

INSTITUTION: Textile Institute, Leningrad.

Koshelev, A. I.

Koshelev, A. I. On the boundedness in  $L_p$  of the highest derivatives of solutions of elliptic differential equations. Vestnik Leningrad Univ. 12 (1957), no. 1, 165-167; 211. (Russian. English summary)

Let  $\Omega$  be a bounded domain of  $n$ -space whose boundary  $\Gamma$  is composed of manifolds, and let a linear elliptic operator of second order be defined on  $\Omega$ . Assume also that the Dirichlet problem with zero boundary conditions has at most one solution. Let  $W_p^2(\Omega)$  be the space of functions on  $\Omega$  with generalized second order derivatives belonging to  $L_p(\Omega)$ . This paper is devoted to the theorem that if  $p > 1$ , and if the coefficients of the elliptic operator and the boundary  $\Gamma$  satisfy certain regularity conditions (which depend on the value of  $p$ ), then the inverse of the operator exists and is continuous as a transformation from  $L_p(\Omega)$  to  $W_p^2(\Omega)$ . There are several typographical errors, and it seems to this reviewer that the proof is somewhat incomplete. G. Huford (Stanford, Calif.)

1-FW

1/1

KOSHEL'NY, A.I.

Some problems in the theory of plasticity [with summary in English].  
Vest. IGU no.19:20-29 '57. (MIRA 11:1)

(Elastic rods and wires)  
(Differential equations, Partial)

KOSHELEV, A.I.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 866  
 AUTHOR KOSHELEV A.I.  
 TITLE On the differentiability of the solutions of elliptic differential equations.  
 PERIODICAL Doklady Akad. Nauk 112, 806-809 (1957)  
 reviewed 6/1957

The elliptic differential equation

$$(1) \quad L(u) = \sum_{i,k=1}^n \frac{\partial}{\partial x_i} (a_{ik}(x) \frac{\partial u}{\partial x_k}) = f(x)$$

shall be integrated in the open bounded domain  $\Omega$  with the boundary  $\Gamma$  for the homogeneous boundary condition

$$u|_{\Gamma} = 0,$$

where  $a_{ik}(x)$  is two times continuously differentiable in  $\Omega + \Gamma$  and

$$\sum_{i,k=1}^n a_{ik} \xi_i \xi_k \geq \mu \sum_{i=1}^n \xi_i^2 \quad \mu > 0 - \text{constant.}$$

KOSHELEV, A. I.

AUTHOR: KOSHELEV, A. I.

20-4-5/51

TITLE: On the Boundedness in the  $L_p$  of the Derived Solutions of Elliptic Equations and Systems. (Ob ogranichenosti v  $L_p$  proizvodnykh resheniy ellipticheskikh uravneniy i sistem)

PERIODICAL: Doklady Akad. Nauk SSSR. 1957, Vol. 116, Nr. 4, pp. 542-544. (USSR)

ABSTRACT: Let the boundary  $S$  of the region  $\Omega$  in the  $n$ -dimensional space  $x(x_1, \dots, x_n)$  be a closed, simply connected surface. In the neighborhood of each point of  $S$  let  $S$  be representable in local coordinates by a sufficiently differentiable function. In  $\Omega$  let be given the system elliptic in the sense of Petrovski

$$(1) \quad Lu = \sum_{k_1, \dots, k_{2m}=1}^n a^{(k_1, \dots, k_{2m})}(x) \frac{\partial^{2m} u}{\partial x_{k_1} \dots \partial x_{k_{2m}}} + Tu = f(x),$$

where  $u(x) = [u_1(x), \dots, u_N(x)]$ ,  $f(x) = [f_1(x), \dots, f_N(x)]$ ,

$a^k(x)$  is a quadratic matrix and  $Tu$  is a differential operator of the order smaller than  $2m$ . Let the generalized solution of (1)

Card 1/3

On the Boundedness in the  $L_p$  of the Derived Solutions of Elliptic Equations and Systems 20-4-5/51

function of  $k$ -th order, for boundary conditions (2) has a generalized solution for  $|\lambda| < \varepsilon$  if  $a^{(k)}, b^{(k)}, \varphi$  are continuous in all variables;  $b^{(k)}, \varphi$  are differentiable with respect to all variables except of  $x$  and  $f \in L_p(\Omega)$ ,  $p > u$ .

ASSOCIATION: Leningrad Textile Institute im. S.M. Kirov (Leningradskiy tekstil'nyy institut im. S.M. Kirova)

PRESENTED BY: V. I. Smirnov, Academician, April 19, 1957

SUBMITTED: April 11, 1957

AVAILABLE: Library of Congress

Card 3/3

Dub

KOSHCHLEV, A.I., Doc Phys-Math Sci—(diss) "A priori evaluations in  $L_p$   
and theorems of existence for elliptic equations and systems." Len, 1958.  
16 pp (Mos Order of Lenin and Order of Labor Red Banner State U in I.V.  
Lomonosov. Mechanical-Math Faculty), 100 copies. Bibliography at end of  
text (KL, 47-58, 129)

-1-

AUTHOR: Koshelev, A.I. SOV/42-13-4-2/11  
TITLE: A Priori-Estimations in the  $L_p$  and Generalized Solutions of  
Elliptic Equations and Systems (Apriornyye otsenki v  $L_p$  i  
obobshchennyye resheniya ellipticheskikh uravneniy i sistem)  
PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 4, pp 29-88 (USSR)  
ABSTRACT: For elliptic equations and systems the first boundary value  
problem with homogeneous boundary conditions is considered. With  
the aid of a priori estimations and by continuation with respect  
to the parameter the author investigates the existence and  
properties of generalized solutions. The results were already  
announced by the author in several publications ( see Koshelev  
[Ref 11,12,13,14,15,16,17,18] ).  
There are 43 references, 31 of which are Soviet, 5 German,  
2 Polish, 2 Italian, and 3 American.

Card 1/1

16(1)

AUTHOR:

Koshelev, A.I.

SOV/42-14-3-22/22

TITLE:

Letter to the Editor

PERIODICAL:

Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 3,  
p 235 (USSR)

ABSTRACT:

The paper contains corrections of numerous errors and misprints in the paper of the author on apriori estimations in the  $L_p$  spaces and on generalized solutions of elliptic equations and systems (Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 4).

Card 1/1



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S/020/62/142/005/005/022  
B112/B102

16.3500

AUTHOR: Koshelev, A. I.

TITLE: Convergence of the method of consecutive approximations for quasi-linear elliptic equations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 5, 1962, 1007-1010

TEXT: A function  $v$  satisfying the equation

$$\int_{\Omega} \left[ \sum_{i=1}^n a_i(x, u, p_j) \frac{\partial v}{\partial x_i} + a_0(x, u, p_j) v \right] dx = 0$$

is said to be a generalized solution of the equation

$$\sum_{i=1}^n \frac{\partial a_i(x, u, p_j)}{\partial x_i} - a_0(x, u, p_j) = 0.$$

It is demonstrated that the boundary value problem  $u|_{\Gamma} = 0$  has an unambiguous generalized solution which can be approximated by the following convergent process:

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16.6500

S/020/63/148/002/008/037  
B172/B102

AUTHOR: Koshelev, A. I.

TITLE: Involution transformations and the method of successive approximation for elliptic equations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1963, 274-276

TEXT: The quasilinear equation

$$\sum_{i=1}^n \frac{\partial}{\partial x_i} [a_i(x, u, p_j)] - a_0(x, u, p_j) = 0 \quad (p_j = \frac{\partial u}{\partial x_j})$$

is considered in a limited domain  $\Omega$  of the  $n$ -dimensional Euclidean space under the boundary condition

$$u|_{\Gamma} = 0$$

Conditions are formulated under which the generalized solution  $u$  of this problem can be reduced under the condition  $\text{div } \vec{\lambda}|_{\Gamma} = 0$  to a vector func-

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Involution transformations and ...

S/020/63/148/002/008/037  
B172/B102

tion  $\vec{\lambda}$  which satisfies the equation

$$\int_{\Omega} (p_0 \operatorname{div} \vec{\mu} + \sum_{i=1}^n p_i \mu_i) dx = 0$$

for any sufficiently smooth function  $\mu$  that vanishes in a boundary strip,  $(u = 0$  follows from  $a_0(x, u, p_j) = 0)$ . Then  $p_i = p_i(x, \lambda_j, \operatorname{div} \vec{\lambda})$  ( $i=0, 1, \dots, n$ )  $\sqrt{A}$  is the solution of the system

$$a_i(x, u, p_j) = \lambda_i \quad (i = 1, 2, \dots, n); \quad a_0(x, u, p_j) = \operatorname{div} \vec{\lambda}$$

A formula for successive approximation is given for the determination of  $\vec{\lambda}$ .

PRESENTED: July 10, 1962, by I. N. Vekua, Academician

SUBMITTED: July 7, 1962

Card 2/2

KOSHELEV, A.I.

Future application of continually working lines of automatic live traps for studying the ecologic characteristics of some passerine birds. Vop. ekol. 4:122-123 '62. (MIRA 15:11)

1. Zapovednik, Burzyanskiy rayon, Bashkirskaia ASSR.  
(Bashkir Preserve—Birdbanding)  
(Passeriformes)

KOSHELEV, A.I. (Leningrad)

Convergence of an approximate method for degenerate elliptic equations.  
Izv. vys. ucheb. zav.; mat. no.3:98-104 '65. (MIRA 18:7)

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UDC: 517.946.9

ACC NR: AP7005578

The following boundary conditions for the first boundary value problem are applied:

$$u|_r = \partial u / \partial \nu|_r = \dots = \partial^{r-1} u / \partial \nu^{r-1}|_r = 0. \quad (2)$$

The iteration process proposed for finding the solution has the form

$$\sum_{0 \leq |\alpha| < r} \int_{\Omega} D^\alpha u_{n+1} D^\alpha v dx = \sum_{0 \leq |\alpha| < r} \int_{\Omega} D^\alpha u_n D^\alpha v dx - \epsilon \sum_{0 \leq |\alpha| < r} \int_{\Omega} a_\alpha(x; u_n, \dots, D^\beta u_n) D^\alpha v dx, \quad (3)$$

where all  $u_n$  satisfy the boundary conditions (2),  $u_0$  is any function in  $W_2^{(r)}$  and  $\epsilon$  is some small positive constant. The following theorem is proved: If there exists a general solution of the problem (1), (2) belonging to the space  $W_2^{(r)}$ , the successive approximation process (3) converges to this solution in the norm  $W_2^{(r)}(1-\gamma)$  for all  $\epsilon > 0$  sufficiently small. Presented by Academician I. G. Petrovskiy on 19 March 1966. Orig. art. has: 10 formulas.

SUB CODE: 12/

SUBM DATE: 16Mar66/

ORIG REF: 003/

OTH REF: 001

Card 2/2

KALININ, S.S.; KOSHELEV, A.K.

Sprayer with a reciprocating motion. Biul.tekh.-ekon.inform.

no.10:46-48 '61.

(MIRA 14:10)

(Spraying and dusting equipment)

BEZUGLOV, I.Ye.; KURDYUMOV, V.N., inzh.; V rabote prinimali uchastiye:  
 GABRILENKO, I.V.; GRABOVSKIY, I.I.; NESHCHADIM, A.G.; BELOBORODOV,  
 V.V.; VISHNEPOL'SKAYA, F.A.; MATSUK, Yu.P.; GAYTSKHOKI, N.I.;  
 USACHEV, A.S.; ABKINA, N.M.; RUMYANTSEVA, A.G.; KOSHELEV, A.P.;  
 GRIGOR'YEV, F.L.; LUKASHEVICH, A.M.; STYAZHKINA, A.G.; MIKHAYLOVICH,  
 A.N.; YEDEMSKIY, P.M.; MASLOV, P.V.; KUDRYASHEVA, Z.P.; PROSMUSHKIN,  
 R.M.; SHTAL'BERG, V.A.; BOYTSOV, N.I.

Operational experience with a newly introduced oil-extraction line  
 equipped with the DS-70 belt-conveyer extractor. Masl.-zhir.prom.  
 26 no.3:29-31 Mr '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for  
 Bezuglov, Gabrilenko, Grabovski, Neshchadim, Beloborodov,  
 Vishnepol'skaya, Matsuk and Gaytskhoki). 2. Leningradskiy  
 zhirovoy kombinat (for Kurdyumov, Usachev, Abkina, Rumyantseva,  
 Koshelev, Grigor'yev, Lukashevich, Styazhkina, Mikhaylovich,  
 Yedemskiy, Maslov, Kudryasheva, Prosmushkin). 3. Leningradskoye  
 otdeleniye tresta "Prodmontazh" (for Shtal'berg and Boytsov).  
 (Leningrad--oils and fats)  
 (Extraction apparatus)

KOSHELEV, A.V.

Reducing the cellulose content of newsprint. Bum.prom. 32  
no.3:17-18 Mr '57. (MLRA 10:4)

1. Setochnik Balakhninskogo tsellyuzno-bumazhnogo kombinata,  
deputat Verkhovnogo Soveta RSFSR.  
(Newsprint)



~~KOSHELEV, Aleksandr Yakov'evich, kand. ekonom. nauk, 1951, 18.12.1911, red.;~~  
~~GUBIN, M.I., tekhn.red.~~

[Principle of material interest and the means of developing it  
in Soviet industry] Printsip material'noi zainteresovannosti i  
formy ego osushchestvleniia v promyshlennosti SSSR. Predstavlena  
presidiumom pravleniia Obshchestva po rasprostraneniui politicheskikh  
i nauchnykh znanii RSFSR. Moskva, Izd-vo "Znanie," 1957. 31 p.  
(Vsesoiuznoe obshchestvo po rasprostraneniui politicheskikh i  
nauchnykh znanii. Ser.3, no.24) (MIRA 10:12)  
(Wages) (Labor and laboring classes)

NESHUMOV, B.V., kand.iskusstvoved.nauk; KOSHELEV, A.Ye., arkhitekt; ASTROVA, T.Ye., arkhitekt; SHIKHEYEV, V.N., arkhitekt; VOSHCHANOVA, G.K., arkhitekt; GORBUNOVA, V.A., arkhitekt; KOVAL'KOV, V.G., arkhitekt; MARKEYEV, Yu.S., arkhitekt; YAVOROVSKAYA, M.E., arkhitekt; OGYZKO, P.V., arkhitekt; TIKHONOVA, N.V., arkhitekt; MANANNIKOVA, L.V., arkhitekt; GRADOV, G.A., red.; PAVLENKO, M.V., red.

[Furniture and equipment for public buildings; catalog based on materials from the Exhibition of Furniture and Equipment for Public Buildings, 1959-1960] Mebel' i oborudovanie dlia obshchestvennykh zdani; katalog sostavlenn po materialam vystavki mebeli i oborudovaniia dlia obshchestvennykh zdani, 1959-1960 gg. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 136 plates. (MIRA 14:2)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut obshchestvennykh zdaniy i sooruzheniy. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Gradov). (Furniture--Catalogs) (Public buildings--Equipment and supplies)

ZUYEV, V. Ye. KABANOV, M. V.; KOSHELEV, B. P.; TVOROGOV, S. D.; KHMELEVTSOV, S. S.

"The influence of microstructure parameters of clouds and fogs on their spectral transmission in Region 0.5-14 Microns."

report presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

ZUYEV, V.Ye.; KABANOV, M.V.; KOSHELEV, B.P.; TVOROGOV, S.D.;  
KHMELEVTSOV, S.S.

Spectral transparency and microstructure of artificial fogs.

Part 2. Izv. vys. ucheb. zav.; fiz. no. 3:92-96 '64.

(MIRA 17:9)

1. Sibirskiy fiziko-tekhnicheskoy institut pri Tomskom gosudarstvennom  
universitete imeni Kuybysheva.

LIBYAN, S. A. NECHIC, R.P.; TYOROGOV, S.D.; KHMELEVTSOV, S.S.

Observation of the visible and infrared radiations by artificial  
fog. Izv. AN SSSR. Fiz. atm. i okeana 1 no.5:509-516  
1965. (MIRA 18:8)

ZUYEV, V.Ye.; KOSHELEV, B.P.

Effect of the spectrometer slit width on the measurable  
spectral and integral absorption. Izv. vys. ucheb. zav.; fiz  
no.6:172-173 '61. (MIRA 15:1)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom  
gosudarstvennom universitete imeni Kuybysheva.  
(Spectrometry)

4776-65 EWT(1)/FCG PI-4 GS/GW  
ACCESSION NR: AT501161

UR/0000/64/000/000/0096/010127

AUTHOR: Zuyev, V. Ye.; Kabanov, M. V.; Koshalev, B. P.; Tyorogov, S. D.; Kme-  
levtsov, S. S.

TITLE: Spectral transparency and microstructure of artificial fogs

SOURCE: Meshvedomstvennoye soveshchaniye po aktinometrii i optike atmosfery.  
5th, Moscow, 1963. Aktinometriya i optika atmosfery (Actinometry and atmospheric  
optics); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 96-101

TOPIC TAGS: artificial fog, spectral transparency, artificial fog microstructure,  
aerosol, fog

ABSTRACT: The article discusses the results of a comprehensive theoretical and  
experimental investigation of the optical and microphysical properties of arti-  
ficial-steam fogs. Quantitative data are obtained on the spectral coefficients  
of attenuation for a polydispersed medium, with allowance made for the complexity  
of the index of refraction of the drop material. Simultaneously performed meas-  
urements of the spectral transparency of the fogs in the visible and infrared  
regions of the spectrum, as well as microstructural investigations, have made it

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1 47763-65  
ACCESSION NR: AT5011161

possible to quantitatively compare the theoretical and experimental data. The calculations show that the spectral variation of the relative attenuation coefficient depends greatly on the particle size distribution. In all cases the transparency of a fog is lower in the  $2-5\mu$  region than in the visible region, whereas in the  $10-12\mu$  region all fogs are more transparent than in visible light wavelength. In the  $5-10\mu$  region, the transparency can be either smaller or larger, the attenuation coefficients being determined essentially by the magnitude and position of a certain function, which is calculated. All microphysical and spectral optical measurements were made in an artificial fog chamber  $15\text{ m}^3$  in volume, using a specially constructed photometer and an IK8-6 infrared spectrometer for the measurement of the transparency in the physical and infrared regions. All optical and microphysical measurements were made for the spectral region near  $0.42$  and simultaneously in the infrared region at  $2.15, 3.7, 6.5, 8.0, 10.0$ , and  $11.8$ . The optical density of the fog ranged from  $0.1$  to  $1.5$ , and the attenuation for visible light ranged from  $2 \times 10^{-4}$  to  $52 \times 10^{-4}\text{ cm}^{-1}$ . The agreement between the experimental and theoretical results is considered to be satisfactory once account is taken of appreciable experimental errors. Orig. art. has: 4 figures and 10 formulas. [02]

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L 47762-65  
ACCESSION NR: AT5011161

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom  
universitete (Siberian Physicotechnical Institute at the Tomsk State University)

SUBMITTED: 25Nov64

ENCL: 00

SUB CODE: ES, OP

NO REF SOV: 007

OTHER: 004

ATD PRESS: 1003

Card 3/3

L 09363-67 ENT(1)/FCC GW

ACC NR: AF6023420

SOURCE CODE: UR/0139/66/000/003/0126/0129

AUTHOR: Koshchelev, D. P.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Concerning the connection between optical and microphysical characteristics of fogs ✓

SOURCE: IVUZ. Fizika, no. 3, 1966, 126-129

TOPIC TAGS: atmospheric transparency, atmospheric water vapor, fog, atmospheric cloud, light absorption, distribution function

ABSTRACT: This is a companion to a series of articles, the last of which is published in the present source (p. 121, Acc. Nr. AF6023419), dealing with the optic transparency and attenuation coefficients of fogs and clouds. The purpose of this investigation was to determine the reason for the disparity between the absolute attenuation coefficients calculated from the microstructural data obtained with a flow-through trap, and the values measured with a photometer. To this end, determinations were made of the water content of the trap simultaneously with measurements by the filtration method, using for the latter a procedure and apparatus described by V. N. Balabanova (Izv. AN SSSR, ser. geofiz., no. 1, 1961). Measurements of 73 artificial fogs have shown that in approximately half the cases the water content measured with filters exceeded the water content calculated with the aid of the trap, by factors exceeding 3.5 and reaching 7

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L 09363-67

ACC NR: AP6023420

and more in one case. An analysis of the data shows that this discrepancy is due to a systematic underestimate of the absolute drop concentration when the trap is used. On the other hand, the trap does yield accurate data on the size distribution of the drops in the fog. Orig. art. has: 3 figures and 3 formulas.

SUB CODE: 20, 04/ SUBM DATE: 26Oct64/ ORIG REF: 004

Card

2/2

ACCESSION NR: AP4036563

S/0139/64/000/002/0090/0097

AUTHORS: Zuyev, V. Ye.; Kabanov, M. V.; Koshelev, B. P.; Tvorogov, S. D.; Khmelevtsov, S. S.

TITLE: Spectral transparency and microstructure of artificial fog. 1

SOURCE: IVUZ. Fizika, no. 2, 1964, 90-97

TOPIC TAGS: fog, spectral transparency, infrared spectrometer, photometer, droplet concentration, water content, spectrometer IKS 6, photometer FEU 22

ABSTRACT: The details of an experimental analysis in the study of artificial fog microstructure and spectral transparency are presented. All measurements were made in artificial fog created by evaporation in a  $15^{-3}$  m chamber. An IKS-6 infrared spectrometer was used to determine transparency in the region  $2-15 \mu$ , and a photometer FEU-22 was used to determine the transparency in regions 0.42, 0.68, 0.94 and  $1.03 \mu$  with  $20-30 \text{ m } \mu$  width. Probes were placed in the chamber to determine droplet concentration, droplet distribution functions and parameters, and water content of the mist. The instruments included flow traps of shaft and reel type, curvilinear flow traps for fine-droplet capture, and optical instruments with remote control. An attempt was made to measure spectral transparency simultaneously with

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